EARTH RADIATION
The Science of Dowsing

Electronic dowsing devices are revolutionising the detection of underground water, oil and mineral deposits as well as radiations that are hazardous to health.

Part 2

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ARMIN BICKEL'S SUPER SCINTILLATION COUNTER

Equipped with a photomultiplier tube with a quantum efficiency of 35 per cent, it can register information from an ore sample 25 feet distant which ordinary commercial scintillators of five to 10 per cent efficiency can pick up only one foot away. Bickel, who has also been able to perform such miracles as growing six-pound lemons by stimulating the roots of lemon trees with specific ultrasonic frequencies, says that his "Algor Super Scintillation Counter" depends on the fact that constant changes due to crystallisation in geological formations that have been going on for half a billion years can, through the proper use of isotope detection, provide clues about what lies below ground.

Before 1913 it was believed that each and every atom of any element was identical in mass. Then it was discovered that an atom could, under certain natural conditions, lose or gain a particle, thereby altering its mass and energy state. These altered atoms, which were later produced artificially in atom-smashers, needed a new name. Called "isotopes", their nuclei had the same number of protons but different numbers of neutrons.

By 1921 Francis William Aston in England had detected 202 isotopes in 71 elements. Today the number has risen to more than 1,500 with an average of four to each element. Only 10 per cent of all known isotopes are found in nature where they can be produced by the interaction of radiations from radioactive substances in the interior of the Earth or cosmic rays from outer space. The rest are engendered by artificial excitation. Thus, a normal gold atom, represented as $_{79}Au^{197}$ (meaning that Au, short for the Latin word *aurum*—gold—has 197 heavier particles in its nucleus, of which 79 are charged protons and 118 uncharged neutrons), can be artificially altered to produce different isotopes from $_{79}Au^{185}$ to $_{79}Au^{203}$, only one of which, $_{79}Au^{196}$, is abundantly found in nature. It is the energy from this single natural isotope which is detectable by the Bickel invention.

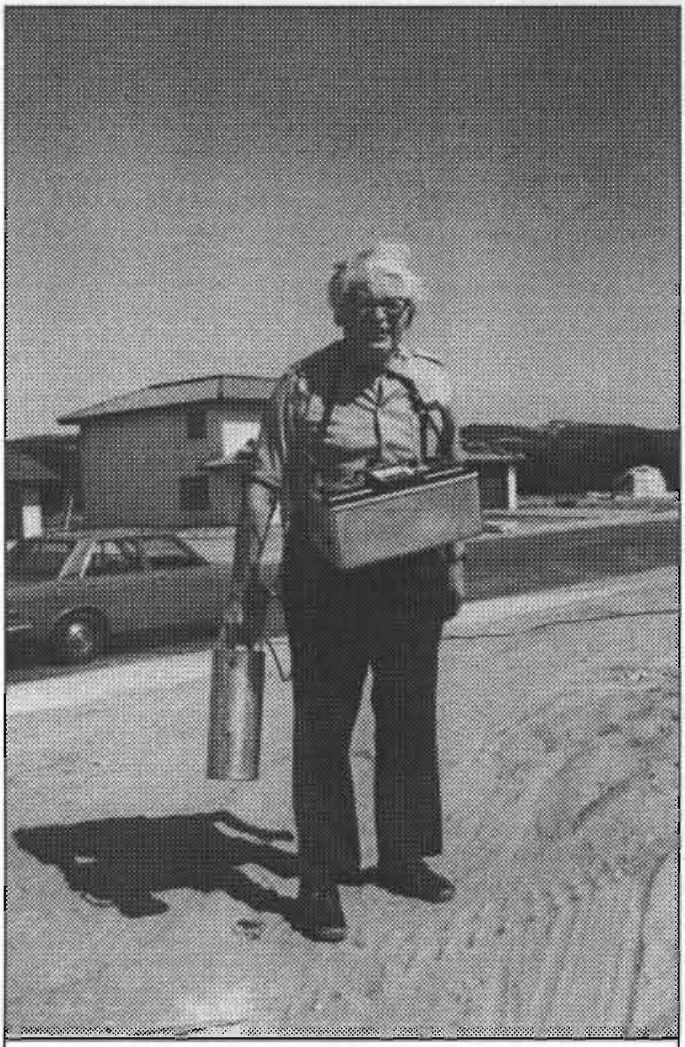
In May 1974, Bickel was invited to explore the area around the Paul Isnard gold mine, 150 kilometres from Saint Laurent du Maroni in French Guiana. Operating from an airplane, his machine recorded only average to below-average readings for gold above the mine site. Above-average readings indicated 'hot spots' for gold in many places five to 20 kilometres from the mine in two directions. Copper mineralisation was also located, says Bickel, near the town of Santonia.

Given the near impossibility of surveying densely wooded terrain normally found in places like French Guiana, Bickel may be correct in stating that his super scintillation detector "is the only tool for exploring South American jungles".

Bickel reported that his scintillators are currently being used by diamond-seekers in South Africa to search for undiscovered funnel-shaped bodies of bluish diamond-rich rock called "Kimberlite pipes". Volcanic in origin, Kimberlite ore has subnormally low radioactivity common to the basalt family of which it is a member. Therefore, when Bickel's counter provides a near-zero negative reading, it indicates a likely place to find one of the "pipes".

Bickel asserts that he has twice detected a "complete blackout"—a zero negative reading—in California, one of which, he believes, indicates a 30-foot-diameter funnel on Figueroa Mountain, 50 miles north of Santa Barbara. The blackouts, he says, can only be caused by Kimberlite ore deposits or pipes of active thermal steam. Intensive aerial search may locate many more of them.

Bickel is confident that his invention's greatest potential lies in its adaptability to oil-search. Oil-bearing formations act as buffers to block the normal background radiation



Dr Armin Bickel and his instrument, photographed at Lompoc, California, in 1977.
(Photo reprinted from *The Divining Hand*, by Christopher Bird.)

issuing from the rocks below them. When directly over a formation's edges, the positive needle on his machine climbs to a much higher reading than for the normal background, due to an anomalous condition in the interface between the oil and the surrounding material.

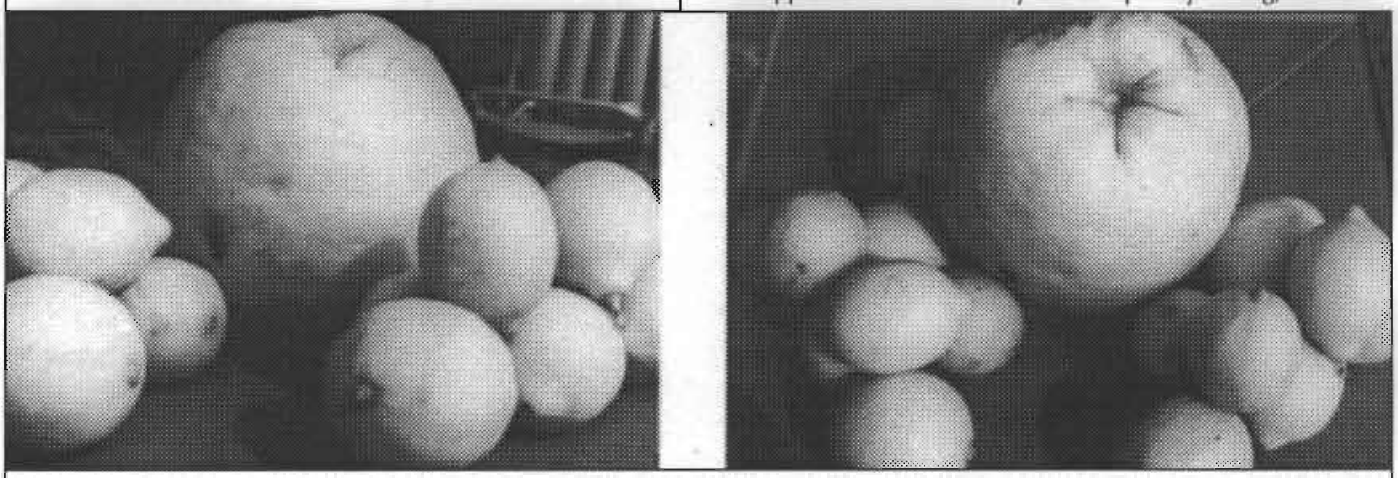
"While the instrument is carried by car or on foot squarely across an oil formation of a kind known to geologists as a closed dome," reports Bickel, "the graph continuously traced on paper looks like a cross-section of a volcanic crater. The raised rim corresponds to the halo" of the circle- or ellipse-shaped dome. The central depression, the lowest level of the negative reading on the graph, marks the most likely spot to drill an oil well.

Bickel's device may not entirely replace existing oil prospecting methods known to trained geologists and field engineers, but he has been told by petroleum experts that when they first saw the device in action they felt as if they had been looking for oil blindfolded in the past. According to Bickel, important sources of underground water are also detectable by this new device. Thirty-six producing water wells were located with it during the first three years of experimentation.

Bickel's inventions would have charmed Dr Armand Viré who, over 50 years ago, prophetically wrote:

"We are not yet endowed with a means of mechanically controlling the dowsing signal, though this has been the dream of so many good-natured souls. But the idea is in the air and it is to be hoped that it will soon be realised. Contrary to what one might think, there are grounds to believe that many dowsers fear such a development. For among dowsers there are two categories: 'professionals' and 'theoreticians'. The latter work and experiment in the laboratory or on the ground with the sole ambition of widening our scientific knowledge and developing our industrial potentials. They thus view the advent of such an apparatus with anticipation.

"Among the 'professionals', on the contrary, there are those who cannot see beyond an egotistical goal, and a perfectly legitimate one at that, of increasing their own personal resources. These fear that any automatic dowsing apparatus will destroy the dowsing profession and cause its disappearance. In this they are completely wrong, for such



Two shots of a large lemon grown by Dr Armin Bickel, compared with normal lemons. Bickel achieved this growth by treating the lemon tree's roots with a specific frequency of ultrasound. The tree then produces three to four lemon blossoms where only one would normally bloom. When all but one of the group of flowers are plucked, the remaining flower then produces an outsized lemon, the stalk of which is also apparently strengthened such that the lemon will not fall from the tree. Bickel has also produced sunflowers up to 18 inches in diameter. A palmetto palm he treated ultrasonically grew more than twice the height of similar trees planted at the same time. (Photographs reprinted from *The Divining Hand*.)

an instrument can only increase the reliability of their prognoses and their very ability to furnish geology, engineering and industry with thenceforth uncontestable and uncontested data.

"Has the telescope destroyed the astronomers? The stethoscope or antisepsis the physicians? The automatic calculator the mathematicians?"

Bickel has developed two closely related models of his instrument. The "Algor Alpha", specially designed for the detection of ore bodies and mineralised zones, can be modified for water-finding. The other, "Algor Explorer X", with the same basic specifications as its relative, is adapted for geological study and exploration because it can register any geological fault system or structural change and is therefore useful in checking ground formations prior to building or road construction.

Bickel is presently working on a new machine, the "Explorer X100", which, using a three-inch caesium-antimony photomultiplier tube with a sapphire window and a doped lithium-germanium crystal, will be able to record the whole spectrum of isotopes of precious metals through the use of a special computer. The machine's operator will see the word "gold" or "silver", or the name of other elements appear in a 'window' built into the instrument whenever considerable quantities of it are indicated underground. ∞

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[Note: The above article is reprinted from Chapter 15 of Christopher Bird's book, ***The Divining Hand: The 500-Year-Old Mystery of Dowsing***, republished in a newly updated edition by Schiffer Publishing Ltd (Whitford Press), Atglen, PA, USA.]

Author Christopher Bird (left), holding dowsing rod, listens for auditory signal as Dr Z. V. Harvalik turns tube mounted atop tripod. (Photo by Lois Pengelly.)

The instrument pictured above is one of the many contraptions devised purportedly to improve or enhance the art of dowsing while at the same time seeming to heighten its scientific credibility. Remarkably, not a few of them have managed to win the acceptance of patent examiners.

Invented by Svatopluk Tabara of Lutin, Czechoslovakia, the device consists of a metal tube 5 mm in diameter and at least 150 mm long. The tube is closed at one end with a metal plug with a 0.2 mm hole pierced through its centre; at the other end with a similar plug to which a stethoscope is attached.

A metal sleeve around the tube allows it to be mounted on a goniometer (angle-measuring device) fixed atop a surveyor's tripod. It is claimed that by turning the tube while holding the dowsing rod at the ready, and with the stethoscope plugged into the ears, a dowser will obtain a signal only if standing acoustical waves originating from a water vein reach the tube when it is aligned perpendicularly to them. The method is supposed to allow the precise delineation of the water vein, its rate of flow and its depth.

Dr Harvalik, shown here rotating the tube while the author manipulates the rod, comments: "This is the first document I have seen in which it is claimed that a dowsing signal can also be acoustically perceived. The search tube would not seem to constitute a collimator for electromagnetic waves converted in the tube into sonic waves (compressions and expansions of air). If the tube cavity were tuned to the exact frequency of an acoustic signal, it could be a collimator for sonic waves, but this does not appear to be the case because the patent reads that the tube can be of any length as long as it is longer than 150 mm. I conclude that the gimmick is simply another *programming* device, a means to allow dowsers to focus their attention on the problem at hand."

OBITUARY: CHRISTOPHER BIRD (1928-1996)

Christopher Bird, best-selling author, naturalist, humanitarian and researcher of anomalous phenomena and science, died of a stroke suffered at his home in Blairsville, Georgia, on Thursday 2nd May 1996.

Mr Bird's best-known book, *The Secret Life of Plants*, which he co-authored with Peter Tompkins, became a long-running best-seller, and was translated into 15 languages. It was followed in 1979 by *The Divining Hand*, recognised as the definitive book on the ancient practice and history of dowsing, and, in 1991, by *Secrets of the Soil*, also co-authored with Peter Tompkins. His experience of being attacked, often in highly personal tones, by mainstream science led Mr Bird to spend the later years of his life exploring the question of how science deals with the apparently anomalous.

In 1993 he wrote *The Trial and Persecution of Gaston Naessens*, concerning the trial and acquittal of Canadian biologist Gaston Naessens over his unorthodox cancer research. At the time of his death, Mr Bird was completing a book on water.

Mr Bird, scion of one of Massachusetts' oldest families, attended Milton Academy and Harvard College, where he took a degree in Botany with a minor in Chinese. He was fluent in Russian, French, Spanish, Chinese, Japanese and Serbo-Croatian. After leaving Harvard, he was awarded a Masters Degree in Eastern European Studies from American University in Washington, DC.

In 1952, Mr Bird was recruited by the Central Intelligence Agency and sent to Japan. After leaving the CIA, he volunteered for the Army where, in 1955, he was one of the first 50 American soldiers sent to Vietnam as part of an elite Special Forces unit. Mr Bird then went to work for the Rand Corporation in Santa Monica, California, as the Special Assistant to James Rand, and later headed the Washington, DC, office of the Rand Corporation. In 1966 he became a foreign correspondent for *Time* magazine in Yugoslavia. Upon returning from Yugoslavia in 1968, he met Mr Tompkins, who played a prominent role in the OSS during World War II and who was also a linguist and writer. Common backgrounds and shared interests led first to friendship and, then, their decades-long collaboration which included extensive research on the life and work of Wilhelm Reich.

Christopher Bird is survived by his wife Shabari, and four daughters, Kristina, Lehua, Doina and Zvia, from his first marriage; a stepson, Tim Bunge, from his second marriage; and three stepchildren, Hope, Gabriel and Jeremiah Cymerman from his third marriage. A delayed memorial service is being planned for late August to allow family members and friends to attend.